varied forms of bill: compare the short bill of the *Ramphomicron*, one-third of an inch, and the six-inch bill of the *Docimastes*—the bill of the *Eutoxeres*, bent down into a semicircle, and that of the *Avocettula*, turning upwards. To an unequalled splendour of plumage (resembling laminæ of topaz and emerald) Nature has not added the gift of song. Their ordinary cry is a shrill *chirik*, uttered by the males in their petty quarrels. The "warbles" ascribed to the *Mellisuga* and *Oreotrochilus* need to be heard again to be credited.

XXII.—*Descriptions of two new Species pertaining to the Avifauna of Australia.* By John Gould, F.R.S. &c.

Having lately received from my friend F. G. Waterhouse, Esq., by permission of the Directors of the South-Australian Institute at Adelaide, a small collection of birds for identification, I find among them two previously unknown, descriptions of which I hasten to communicate to the scientific world. The first is of especial interest, inasmuch as it is a second species of the genus *Xerophila*, of which only one was previously known; and the second is an additional member of that elegant group of little Terns the *Sternulæ*.

Xerophila pectoralis, Gould.

Face and throat white, passing into greyish white on the ear-coverts; crown and nape hair-brown mottled with blackish brown, the darker tint occupying the centre of each feather; back chestnut-brown, becoming much darker and richer on the rump; upper tail-coverts hair-brown; two central tail-feathers hair-brown, with lighter edges; the five lateral feathers on each side black tipped with white; across the chest a well-defined band of cinnamon-brown; under surface white, with a mark of chestnut down the centre of each of the flank-feathers; wings dark brown, the secondaries broadly margined with dull buff; under tail-coverts buffy white; bill and feet black.

Total length $3\frac{7}{8}$ inches; bill $\frac{3}{8}$, wing $2\frac{1}{4}$, tail $1\frac{5}{8}$, tarsi $\frac{5}{8}$.

Hab. Port Augusta, South Australia.

Remark. This highly curious form reminds one of *Ephthianura*, but is distinguished from it by the bill being almost as thick as that of a finch.

Sternula placens, Gould.

Adult male. Bill yellow, with the apical third of both mandibles black, as sharply defined as if they had been dipped in

ink; forehead white, advancing over each eye to near its posterior angle; lores, a narrow line above the eyes, crown and nape black; upper surface of the body and wing-coverts grey; the first primary slaty black on the outer web and along the inner web next the shaft; the shaft itself and the outer half of the inner web white; the second primary similarly but a little less strongly marked; the remainder of the primaries silvery grey, with lighter shafts; throat and all the under surface of the body silky white; tail white; feet yellow.

Total length 10 inches; bill, from the gape, $1\frac{5}{8}$, wing $7\frac{1}{2}$, tail $4\frac{3}{8}$, tarsi $\frac{3}{4}$.

Hab. Torres Straits.

Remark. Two specimens of this bird are now before me:—one, a female, which has been in my collection for many years; the other, a fine adult male, forming part of the collection above mentioned, and which had lately been received at Adelaide from the northern territory at Port Darwin.

I have carefully compared this species with the *Sternula nereis* of Australia, the *S. minuta* of Europe, and the *Sternula* of India, supposed to be identical with the latter (but this, I think, is a question). I have also compared it with all the little Terns of America, both North and South. Its nearest ally seems to be the European species; but from this it differs in having considerably longer wings, in the snow-white hue of the shafts of the primaries, and in the larger and well-defined mark of black on the tips of the mandibles; from *S. nereis* it is distinguished by having black instead of white lores.

XXIII.—*Whence comes the Nourishment for the Animals of the Deep Seas?* By Prof. Karl Möbius*.

The investigations of the greatest depths of the ocean, made in Baffin's Bay by John Ross (1818), in the Pacific Ocean by James Ross (1843), in the North-Atlantic Ocean by Wallich (1860), near Spitzbergen by Chydenius and Torell (1861), in the north-eastern part of the Atlantic by Carpenter, Jeffreys, and Thomson (1868 and 1869), and in the Gulf-stream off Florida by Pourtales (1869), have shown that the bottom of the ocean at great depths (550–3000 fathoms) consists princi-

* Translated by W. S. Dallas, F.L.S., from a separate copy of the paper sent by the author to Dr. J. E. Gray, F.R.S.